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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,197	06/23/2003	Karl-Ernst Hummel	037141.52534US	6417
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CROWELL & MORING LLP INTELLECTUAL PROPERTY GROUP P.O. BOX 14300 WASHINGTON, DC 20044-4300			EXAMINER TRIEU, THAI BA	
			ART UNIT	PAPER NUMBER
			3748	

DATE MAILED: 06/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/601,197	HUMMEL, KARL-ERNST	
	<b>Examiner</b>	<b>Art Unit</b>	
	Thai-Ba Trieu	3748	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-15 is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____.  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>04/26/2004</u> .  | 6) <input type="checkbox"/> Other: ____.                                    |

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### DETAILED ACTION

The numbering of claims is objected to since applicant omitted claim **13**. Pursuant to rule 126, the examiner has renumbered claims **14-16** as claims **13-15**. The rejections set forth below are based on the renumbered claims.

### *Priority*

Receipt is acknowledged of papers submitted under 35 U.S.C. 119 (a)-(d), which papers have been placed of record in the file.

### *Information Disclosure Statement*

Applicant provided an English abstract of the Japanese Patent Number JP 6193242 A1, which did not match with the invention of the prior art. The prior art discloses ***"a fuel controller for engine having supercharger"***; whereas the provided English Abstract discloses ***"a natural stony tile block having projection part on the upper surface and manufacture thereof"***. Accordingly, a correct English abstract of the Japanese Patent Number JP 6193242 A1 is provided and attached to the Office Action.

### *Drawings*

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the ***"hydrodynamic***

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**compressor**" (See Claims 1 and 3) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims **1-6** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which

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applicant regards as the invention. Specifically, in claims 1 and 3, line 4, the recitation of **"hydrodynamic compressor"** is not clear to the examiner that which kind of compressor the applicant references to, or the instant application compressor is driven by a hydrodynamic drive. Even though the limitation of **"hydrodynamic compressor"** is recited on Page 3, Paragraph [0010], it has not given an explicit meaning that applicant intends to use or apply in his invention.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claims 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Takeda (Patent Number 4,299,089).***

Takeda discloses a method of monitoring secondary air injection into an exhaust system of an internal combustion engine (31), wherein a delivery rate of secondary air delivered through a secondary air charging system (16, 17, 18, 19, 20, 21, 22, 25, and 26) is monitored, said method comprising measuring heating of the secondary air (via sensor 22) which occurs due to compression (via pump 14), and using the measurement result is used as a measure of the delivery rate of the secondary air charging system;

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wherein a change in the measurement results over time is determined and used as a measure of the delivery rate of the secondary air charging system; and

wherein the measurement results are used for additional information with regard to functioning of the secondary air charging system (See Figures 1 and 3, Column 3, lines 51-68, Column 4, lines 1-4 and 43-68, and Column 5, lines 1-12).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

***Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda (Patent Number 4,299,089), in view of Yoshimura (Patent Number 5,095,691).***

Takeda discloses an internal combustion engine (31) having an intake tract for intake air (via 1) and an exhaust system (39, 27, 28, 29) for combustion products of the internal combustion engine, and further comprising:

- a secondary air charging system (16, 17, 18, 19, 20, 21, 22, 25, and 26) comprising a compressor (14),
- a sensor (22) for generating a measurement signal suitable for determining a delivery rate of secondary air delivered by the secondary air charging system, wherein said sensor (22) is a temperature sensor which communicates with compressed air

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downstream from the compressor (14) to measure the temperature of the compressed air charging system, and

- another temperature sensor (23), which communicates with air upstream from the compressor to measure the temperature of the upstream air (See Figures 1 and 3, Column 3, lines 51-68, Column 4, lines 1-4 and 43-68, and Column 5, lines 1-12).

However, Takeda fails to disclose a hydrodynamic compressor powered by a drive.

Yoshimura teaches that it is conventional in the art of the secondary air supply system for an internal combustion engine, to utilize a compressor (8) being powered by a hydraulic motor (7) (See Figure 1).

It would have been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized a compressor being powered by a hydraulic motor, as taught by Yoshimura, since the use thereof would have minimized or reduced the cost in providing the hydraulic system for driving air pump/compressor.

#### ***Allowable Subject Matter***

Claims **3-6** would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Claims 10-15 are allowed.

The following is an examiner's statement of reasons for allowance: None of the cited prior art alone or in combination teaches:

**"Regarding claim 10:**

*measuring cooling of intake air occurring due to expansion in the turbine and using the measurement result as a measure of the delivery rate of the second air charging system.*

**Regarding claim 13:**

*the measured temperature of intake air downstream from the turbine and the measured of the secondary air downstream from the compressor as a measure of the delivery rate of the secondary air charging system."*

**Conclusion**

The IDS (PTO-1449) filed on April 26, 2004 has been considered. An initialized copy is attached hereto.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Tachibana (US Patent number 6,192,678 B1) discloses a secondary air supply control system for internal combustion engine.
- Agustin et al. (US Patent Number 5,560,199) disclose a malfunction monitoring apparatus and method for a secondary air supply system of an internal combustion engine.
- Sim (US Patent number 5,832,725) discloses a device for reducing air polluting emission from vehicles by supplying the time resolved secondary air according to the exhaust valve timing of each cylinder at desired time and in desired amount.
- Tadokoro et al. (US Patent Number 4,702,219) disclose a part of the compressed air pressurized by a supercharger being introduced into the exhaust system as a secondary air in predetermined operating range of the engine.



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- Ishida et al. (US Patent Number 4,674,283) disclose a turbocharging system for an internal combustion engine.

- Handa (Patent Number JP 61112720 A) discloses a supercharged engine having a secondary air being continuously supplied to raise exhaust temperature.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (703) 308-6450. The examiner can normally be reached on Monday - Thursday (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (703) 308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTB  
June 20, 2004



Thai-Ba Trieu  
Patent Examiner  
Art Unit 3748